Please provide the following information, and submit to the NOAA DM Plan Repository.

Reference to Master DM Plan (if applicable)

As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

1. General Description of Data to be Managed

1.1. Name of the Data, data collection Project, or data-producing Program:

Benthic Surveys in Vatia, American Samoa since 2015: benthic images collected during belt transect surveys in 2015

1.2. Summary description of the data:

Jurisdictional managers have expressed concerns that nutrients from the village of Vatia, Tutuila, American Samoa, are having an adverse effect on the coral reef ecosystem in Vatia Bay. Excess nutrient loads promote increases in algal growth that can have deleterious effects on corals, such as benthic algae outcompeting and overgrowing corals. Nitrogen and phosphorus can also directly impact corals by lowering fertilization success, and reducing both photosynthesis and calcification rates. Land-based contributions of nutrients come from a variety of sources; in Vatia the most likely sources are poor wastewater management from piggeries and septic systems.

NOAA scientists conducted benthic surveys to establish a baseline against which to compare changes in the algal and coral assemblages in response to nutrient fluxes.

The data described here were collected via belt transect surveys of coral demography (adult and juvenile corals) by the NOAA Coral Reef Ecosystem Program (CREP) according to protocols established by the NOAA National Coral Reef Monitoring Program (NCRMP). In 2015 data were collected at 18 stratified randomly selected sites in Vatia Bay. These data include photoquadrat benthic images. Data can be accessed online via the NOAA National Centers for Environmental Information (NCEI) Ocean Archive, accession # 0146680. These photos have been analyzed for benthic cover (documented separately).

Data from coral demographic surveys, including 1) an assessment of coral colony density and size-class distribution, 2) an assessment of coral recruitment, and 3) an evaluation of coral colony mortality, disease, and evidence of sediment stress, were also collected for the selected monitoring sites and are documented separately by CREP.

Also, in 2016, American Samoa Department of Marine and Wildlife Resources (DMWR) is collecting benthic images approximately every 2 months at three shallow sites where permanent transects were established. DMWR will then forward the photos to CREP to be analyzed and checked for seasonal changes in algae. Three to four sets of images are

expected. The first set, as of the publication of this record, have not yet been received.

Monthly water quality sampling for nitrate/nitrite, ammonium, urea, total nitrogen, orthophosphorus, and total phosphorus data are also collected as part of this project to quantify the nutrient dynamics of the Bay. These additional data are described separately by the NOAA National Centers for Coastal Ocean Science (NCCOS).

1.3. Is this a one-time data collection, or an ongoing series of measurements?
One-time data collection

1.4. Actual or planned temporal coverage of the data:
2015-11-02 to 2015-11-12

1.5. Actual or planned geographic coverage of the data:
W: -170.67402874, E: -170.66666666667, N: -14.24323428, S: -14.250059
Vatia Bay, Tutuila, American Samoa

1.6. Type(s) of data:
(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)
Image (digital)

1.7. Data collection method(s):
(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)
Instrument: Digital camera
Platform: Not applicable
Physical Collection / Fishing Gear: Not applicable

1.8. If data are from a NOAA Observing System of Record, indicate name of system:

1.8.1. If data are from another observing system, please specify:

2. Point of Contact for this Data Management Plan (author or maintainer)

2.1. Name:
Annette M DesRochers

2.2. Title:
Metadata Contact

2.3. Affiliation or facility:
Pacific Islands Fisheries Science Center

2.4. E-mail address:
annette.desrochers@noaa.gov

2.5. Phone number:

(808)725-5461

3. Responsible Party for Data Management

Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.

3.1. Name:

Bernardo Vargas-Angel

3.2. Title:

Data Steward

4. Resources

Programs must identify resources within their own budget for managing the data they produce.

4.1. Have resources for management of these data been identified?

Yes

4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):

Unknown

5. Data Lineage and Quality

NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.

5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible

(describe or provide URL of description):

Lineage Statement:

Benthic photographs were collected during belt transect surveys of corals by the NOAA Coral Reef Ecosystem Program (CREP) following the same protocol to that established by the NOAA National Coral Reef Monitoring Plan (NCRMP).

Process Steps:

- The survey domain encompassed ~95% of the mapped area of reef and hard bottom habitat, and was divided into strata based upon depth. Depth categories (binned in meters) of shallow (0–6 m), mid-depth (6–18 m) and deep (18–30 m) were incorporated into the stratification scheme, and allocation of sampling effort was proportional to strata area. Sites were randomly selected within each stratum. At each site, two haphazardly laid, 18-m transects were the focal point of the surveys. Survey protocols followed methodologies historically implemented by CREP, including the installation of 3 permanent monitoring sites on the east side of Vatia Bay (1–5 m) to assess potential seasonal and long-term changes in the benthic algal composition. Still photographs were collected to record the benthic community composition at predetermined points along the same 2 transect lines with a high-resolution digital camera mounted on a pole. Photographs were taken every 1 m

from the 1 m to the 15 m mark. This work generates 30 photographs per site, which are later analyzed by CREP staff and partners using the computer program CoralNet. This analysis is the basis for estimating benthic cover and composition at each site. In 2016, American Samoa Department of Marine and Wildlife Resources (DMWR) will be collecting benthic images approximately every 2 months at three shallow sites where permanent transects were established. DMWR will then forward the photos to CREP to be analyzed and checked for seasonal changes in algae. (Citation: Draft Coral Reef Ecosystem Program – Standard Operating Procedures: Rapid Ecological Assessment (REA) Benthic Survey Data Collection - latest draft as of March 21, 2016)

5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:

5.2. Quality control procedures employed (describe or provide URL of description):
Benthic images and the file structure are quality controlled by CREP personnel before they are migrated and integrated into CREP's master optical directory on the PIFSC network.

6. Data Documentation

The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.

6.1. Does metadata comply with EDMC Data Documentation directive?
Yes

6.1.1. If metadata are non-existent or non-compliant, please explain:

6.2. Name of organization or facility providing metadata hosting:
NMFS Office of Science and Technology

6.2.1. If service is needed for metadata hosting, please indicate:

6.3. URL of metadata folder or data catalog, if known:
https://inport.nmfs.noaa.gov/inport/item/31196

6.4. Process for producing and maintaining metadata
(describe or provide URL of description):
Metadata produced and maintained in accordance with the NMFS Data Documentation Procedural Directive: https://inport.nmfs.noaa.gov/inport/downloads/data-documentation-procedural-directive.pdf

7. Data Access

NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.

7.1. Do these data comply with the Data Access directive?

Yes

7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?

7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:

7.2. Name of organization of facility providing data access:

National Centers for Environmental Information - Silver Spring, Maryland

7.2.1. If data hosting service is needed, please indicate:

7.2.2. URL of data access service, if known:

http://accession.nodc.noaa.gov/0146680
http://accession.nodc.noaa.gov/0146680
http://accession.nodc.noaa.gov/0146680

7.3. Data access methods or services offered:

Data can be accessed online via the NOAA National Centers for Environmental Information (NCEI) Ocean Archive, accession #0146680.

7.4. Approximate delay between data collection and dissemination:

Unknown

7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:

8. Data Preservation and Protection

The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.

8.1. Actual or planned long-term data archive location:

(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)

NCEI-MD

8.1.1. If World Data Center or Other, specify:

8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:

8.2. Data storage facility prior to being sent to an archive facility (if any):
Pacific Islands Fisheries Science Center - Honolulu, HI

8.3. Approximate delay between data collection and submission to an archive facility:
Unknown

8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?
Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection
NOAA IRC and NOAA Fisheries ITS resources and assets.

9. Additional Line Office or Staff Office Questions
Line and Staff Offices may extend this template by inserting additional questions in this section.